REMARKS

Claims 1, 4, 5 and 7 have been amended. Claims 1-11 remain for further consideration. No new matter has been added.

The rejections shall be taken up in the order presented in the Official Action.

3-4. Claims 1-4 and 6 currently stand rejected for allegedly being anticipated by the subject matter disclosed in U.S. Patent 4,031,377 to Deutsch et al (hereinafter "Deutsch").

The system of claim 1 recites *"means for summing said first and second shifted signals to provide a summed signal value that is indicative of the product of said multiplier and said multiplicand;"*. (emphasis added, cl. 1). In contrast, the circuit disclosed in Deutsch generates a product signal ***only after*** the right or left shift circuit 29 (FIG. 1). Deutsch makes this point emphatically clear when he states *"[t]he output of the shift circuit 29 is the multiplication product X=SC."*. (col. 5, lines 24-26). The adder 27 of Deutsch does not provide a signal that is indicative of the product. The output of the adder 27 in Deutsch is simply the product of S and the mantissa of C. The left or right shift circuit 29 critical in order to multiply by the power of C (see col. 5, lines 21-24). Only after the left or right shift circuit 29 is there a value available which is indicative of the product of the multiplier and the multiplicand. Hence, Deutsch clearly fails to disclose *"means for summing said first and second shifted signals to provide a summed signal value that is indicative of the product of said multiplier and said multiplicand;"*. (emphasis added, cl. 1).

A §102 rejection requires that a single reference teach each and every element of the claimed invention. Deutsch fails to disclose that the circuit is located on a monolithic integrated circuit. In addition, Deutsch fails to disclose *"means for summing said first and second shifted signals to provide a summed signal value that is indicative of the product of said multiplier and said*

multiplicand;". (emphasis added, cl. 1). Therefore, it is respectfully submitted that Deutsch is incapable of anticipating claim 1.

5-6. Claims 5 and 11 currently stand rejected under 35 U.S.C. §103 in view of the combined subject matter disclosed in Deutsch in view of U.S. Patent 5,402,369 to Main (hereinafter "Main").

It is respectfully submitted that this rejection is now moot, since claims 1 and 7 are patentable for at least all the reasons discussed herein.

7. Claims 7-10 currently stand rejected under 35 U.S.C. § 103 as allegedly being obvious over Deutsch.

Claim 7 recites a monolithic integrated circuit that includes first means for bi-directionally shifting and second means for bi-directionally shifting. In addition, claim 1 has been amended to recite that the first and second shifting devices are bi-directional shifting devices. The Official Action recognizes that Deutsch does not disclose such a feature, but alleges that Deutsch renders obvious such a feature.

Specifically, the Official Action contends that a skilled person at the time of the invention would have been motivated to modify Deutsch based upon the alleged teaching of Deutsch to make the left shift circuits 12, 13 (see FIG. 1 of Deutsch) bi-directional. It is respectfully submitted that this obviousness rejection is based upon an incorrect and impermissibly broad reading of Deutsch. After admitting that Deutsch fails to disclose the claimed first and second bi-directional shifters (see Official Action, pg. 5), the Official Action then contends *"Deutsch discloses [in] another embodiment the shift registers would be a bi-directional shifter for either shifting left or right depending on the multiplier factor (e.g., col. 4, lines 5-12)."* (Official Action, pg. 5). The Official

Action then concludes *"[t]herefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to replace the mono-directional shift circuits with the bi-directional shift circuits with functional as cited in Deutsch et al.'s alternative embodiment because it would enable to correctly multiplying with decimal factor."* (Official Action, pg. 6). This rejection is improper.

The Official Action contends that col. 4, lines 5-15 of Deutsch would suggest to a skilled person that they modify the left shifters 12, 13 to be bi-directional devices. However, a fair and proper reading of the text at col. 4, lines 5-15 merely reveals how the left or right shift circuit 29 (see FIG. 1 of Deutsch) operates. Contrary to the contention in the Official Action, there is no alternative embodiment illustrated in Deutsch. The left or right shift register circuit 29 in FIG. 1 of Deutsch is not an alternative component to the left shift registers 12, 13 and but rather a critical device that is required to operate *in combination* with the left shift registers 12, 13 in order to implement the multiplier circuit illustrated in FIG. 1. The left and right shift register circuit 29 can not be considered to be an *alternative* as characterized in the Official Action. FIG. 1 of Deutsch illustrates a multiplier circuit and FIGs. 2-4 of Deutsch simply illustrate individual components of the multiplier circuit – there is no embodiment illustrated in Deutsch that is an alternative to the embodiment of FIG. 1. Therefore, the allegations in the Official Action regarding the supposed alternative embodiment and why a skilled person would allegedly modify Deutsch are both based upon an improper and overly broad reading of Deutsch.

In addition, there is no proper suggestion regarding why a skilled person would allegedly convert the left shift circuits 12, 13 to bi-directional devices. The multiplier circuit 10 of Deutsch is configured and arranged such that the shift circuits 12, 13 ONLY NEED TO SHIFT LEFT. The shift circuits 12, 13 only need to shift left in order to implement the numbers shown in the right column of

Table II of Deutsch. Since the values in the right column of Deutsch are all powers of two greater than one, ONLY left shifts are required. If the shift circuit 12, 13 were allowed to shift right then the multiplier circuit 10 in Deutsch would not longer work for its intended purpose since the values output by the shift circuits 12, 13 would not be the values set forth in the right column of Table II of Deutsch. Therefore, it is respectfully submitted that the contention in the Official Action that a person of ordinary skill would have been motivated to convert the left shift circuits 12, 13 into bi-directional devices in order to "*enable to correctly multiplying with decimal factor*" is in correct. "*Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.*" In re Geiger, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). "*Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, '[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.'*" In re Laskowski, 10 U.S.P.Q.2d 1397, 1398 (Fed. Cir. 1989), citing In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). Hence, it is respectfully submitted that a prima facia case of obviousness has not been presented since there is no proper teaching, suggestion or incentive that would lead one of ordinary skill in the art to modify Deutsch to create the claimed invention.

For all the foregoing reasons, reconsideration and allowance of claims 1-11 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,

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